UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,563	10/05/2000	Burton A. Hipp	A-69623/DCA/JWC	2083

7590 04/15/2004

B. NOEL KIVLIN
MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL P.C.
P.O. BOX 398
AUSTIN, TX 78767-0398

EXAMINER	
CHANKONG, DOHM	

ART UNIT	PAPER NUMBER
2154	7

DATE MAILED: 04/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/680,563	HIPP ET AL.	
	Examin r	Art Unit	
	Dohm Chankong	2154	

-- The MAILING DATE of this communication appears on the cover sheet with th c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2, 2/9/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 and 3-16 are presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The following claims lack proper antecedent basis:

i. Claim 1, line 18 – "the virtual resource driver";

ii. Claim 7, line 20 – "the virtual resource driver";

iii. Claim 12, line 16 – "the virtual resource driver".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1 and 4 are rejected under 35 U.S.C 103(a) as being unpatentable over Gaines, U.S Patent No. 5,961,582 in view of Kawabe et al (hereinafter Kawabe), U.S Patent No. 5,819.044, in further view of Waldo et al (hereinafter Waldo), U.S Patent No. 6,016,500.

6. Gaines was cited by applicant in IDS#2, 2/9/01.

7. As to claim 1, Gaines teaches a computer network, a method of implementing a virtual layer around a software application instance in communication with an operating system, the method comprising:

registering an application by associating a unique application identifier with the application, and passing said application identifier to a software module that processes transitions between the application and the operating system (column 5, lines 54-64);

allocating a resource identifier associated with said resource in response to said request (column 5, line 65 and column 6, lines 63-67 – where the resource identifier is the process)

translating said resource identifier to said virtual resource identifier when the resource identifier is passed from the operating system to the application (column 7, lines 53-60).

Gaines does not teach allocating a resource in response to a resource request by the application. Gaines does teach a virtual resource identifier (column 6, lines 56-58) but not allocating the virtual resource identifier associated with said resource in

response to said request. And while Gaines also teaches translating a virtual resource request to a resource request when the virtual resource request is passed from the application to the operating system (column 6, lines 42-46) he does not specifically disclose translating said virtual resource identifier to said resource identifier when the virtual resource driver is passed from the application to the operating system.

8. Kawabe teaches a method comprising allocating a virtual resource identifier associated with said resource in response to said request (column 2, lines 20-29 and column 5, lines 4-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gaines to include the virtual resource identifier allocation functionality

Kawabe also discloses a method comprising translating said virtual resource identifier to said resource identifier when the virtual resource driver is passed from the application to the operating system (column 10, lines 41-61 – where "vname3" is the virtual resource identifier and "Loc2 proc3" is the resource identifier). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gaines to include the virtual resource identifier to resource identifier translation capability so the actual resources can be accessed at their proper location after having been made virtual (column 2, lines 54-64).

Kawabe does teach a method comprising of resource management (column 2, line 54) but does not explicitly disclose allocation of a resource in response to a resource request by the application.

9. Waldo teaches that it is well known in the art that resource management involves the allocation of resources in response to requests by an application (column 2, lines 32-49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include Waldo's resource allocation capability in Kawabe's resource management method so the method can properly allocate the necessary resources to the application when needed.

It would have also been obvious to one skilled in the art at the time the invention was made to include Kawabe's resource management in Gaines so resources can properly be allocated in response to application requests.

10. As to claim 4, Gaines does not teach a method further comprising associating a plurality of resource identifiers and a plurality of resources with said virtual resource identifier.

11. Kawabe teaches a method further comprising associating a plurality of resource identifiers and a plurality of resources with said virtual resource identifier (column 20, lines 1-30 where the actual resources "orig" and "copy" and resource identifiers "select_1st" and "select_2nd" are associated with the virtual resource name "A"). It would have been obvious to one skilled in the art at the time the invention was made to modify Gaines to associate a plurality of resource and resource identifiers with a virtual resource identifier multiple copies of a resource that are adapted for a plurality of various systems can be accessed (column 20, lines 46-55).

12. Claim 3 is rejected under 35 U.S.C 103(a) as being unpatentable over Gaines, Kawabe and Waldo as applied to claim 1 above, in further view of Manikundalam et al (hereinafter Manikundalam).

13. As to claim 3, Gaines does not disclose a method further comprising creating an entry in a virtual resource translation table in response to said resource request, wherein said entry describes the association between said application identifier, said resource identifier, and a said virtual resource identifier.

14. Kawabe teaches a method further comprising creating an entry in a virtual resource translation table in response to said resource request, wherein said entry describes the association between said resource identifier and a said virtual resource identifier (Figure 2 and column 5, lnes 4-22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gaines to include a virtual resource translation table and entries in response to resource requests so the relationships between the virtual resource identifiers, resource identifiers and resources can be efficiently managed (column 5, lines 31-33).

Kawabe does not teach a virtual resource translation table wherein the entries describe the association between an application identifier and virtual resource identifier and the resource identifier.

15. Manikundalam teaches resource translation table wherein the entries

describe the association between an application identifier and the resource identifiers (Figure 4b and column 4, lines 10-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the application identifier in Kawabe's virtual resource translation table so the table can also map the applications to the resources they need.

16. Claim 5 is rejected under 35 U.S.C 103(a) as being unpatentable over Gaines, Kawabe and Waldo as applied to claims 1 and 4 above, in further view of Barrera, III (hereinafter Barrera), U.S Patent No. 6,247,057.

17. Gaines does not teach a method wherein said plurality of resources are a plurality of ports.

18. Barrera teaches a method wherein said plurality of resources are a plurality of ports (column 6, line 64 to column 7, line 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include ports as resource in Gaines so the application can properly communicate with the network through the port resource as well as be identified on the network.

19. Claim 6 is rejected under 35 U.S.C 103(a) as being unpatentable over Gaines, Kawabe and Waldo, in further view of Lomet, U.S Patent No. 5,933,838.

20. Gaines does not teach a method further comprising associating said virtual resource identifier with a new resource identifier and a new resource in response to said application being restored from one or more snapshots.

21. Kawabe teaches a method comprising associating said virtual resource identifier with a new resource identifier and a new resource (column 2, lines 48-64) but does not disclose doing said association in response to an application being restored. It would have been obvious to one skilled in the art at the time the invention was made to modify Gaines to include Kawabe's virtual resource association functionality so the resources of the computer system are made virtual and the user can access the virtual resource by its identifier, thereby increasing the flexibility of the resource management (column 2, lines 20-29).

22. Lomet teaches associating a resource identifier with a new resource in response to an application being restored from one or more snapshots (column 15, line 62 to column 6, line 15 and lines 24-51). It would have been obvious to one of ordinary skill in the art to modify Kawabe to associate virtual identifiers with new resources so the application can be recovered to the previous state prior to a crash.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gaines to include the functionality of Kawabe and Lomet's application recovery method so that application operations can be restored from a crash using saved resources and their IDs.

23. Claims 7 and 12 are rejected under 35 U.S.C 103(a) as being unpatentable over Chrabaszcz, U.S Patent No. 6,363,497, in view of Draves, U.S Patent No. 5,802,590, in further view of Leach et al (hereinafter Leach), U.S Patent No. 6,108,715.

24. Leach was cited by applicant in IDS #2, 2/9/01.

25. As to claim 7, Chrabaszcz teaches a system comprising hardware adapted to execute program instructions from a computer readable medium, the program instructions including an operating system and a software module:

the software module is operable to:

register the application by associating a unique application identifier with the application (column 12, line 66 to column 13, line 23);

pass said application identifier to a software module that processes transitions between the application and the operating system (column 12, line 66 to column 13, line 23); and

allocate a resource identifier associated with said resource in response to said request (column 12, lines 48-65).

Chrabaszcz teaches allocating a resource and a resource identifier associated with said resource but does not disclose:

an operating system that allocates the resource and resource identifier;

performing the allocation in response to a request;

allocating a virtual resource identifier associated with said resource in response to said request; or

a translation table operable to:

translate said resource identifier to said virtual resource identifier when the resource identifier is passed from the operating system to the application; and

translate said virtual resource identifier to said resource identifier when the virtual resource driver is passed from the application to the operating system.

26. Draves teaches an operating system operable to:

allocate a resource in response to a resource request by an application (Figure 3, column 3, lines 39-46 and column 4, lines 57-66); and

allocate a resource identifier associated with said resource in response to said request (column 3, lines 45-62).

It would have been obvious to one of ordinary skill in the art to modify Chrabaszcz to include an operating system to allocate resources and resource identifiers in response to a request to minimize processing and memory overhead in the system as well as enhance the sharing of resources between applications and servers (column 2, lines 50-63).

27. Leach teaches a software module that allocates a virtual resource identifier associated with said resource in response to said request (column 6, lines 3-20); and

a translation table operable to:

translate said resource identifier to said virtual resource identifier when the

resource identifier is passed from the operating system to the application (Figure 4, column 5, line 65 to column 6, line 20 and lines 61-64 – where the address space is the resource identifier and the software component is the translation table); and

translate said virtual resource identifier to said resource identifier when the virtual resource driver is passed from the application to the operating system (column 6, line 14-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Chrabaszcz to include a software module for allocation of virtual resource identifiers for the invocation of resources while minimizing processing overhead on the system (column 5, lines 57-59) and a translation table for virtual and regular resource identifiers so the resources can be shared among applications (column 2, lines 43-47).

28. Claim 12 is a computer readable medium which performs the actions of the system of claim 7. Therefore, claim 12 is rejected for the same reasons set forth in above paragraphs 24, 25, and 26 for claim 7.

29. Claim 8 and 13 are rejected under 35 U.S.C 103(a) as being unpatentable over Chrabaszcz, Draves and Leach as applied to claim 7 above, in further view of Kawabe and Manikundalam.

30. Chrabaszcz does not teach a system wherein said translation table comprises an entry describing the association between said application identifier, said resource identifier, and said virtual resource identifier.

31. Kawabe teaches a system further comprising creating an entry in a virtual resource translation table in response to said resource request, wherein said entry describes the association between said resource identifier and a said virtual resource identifier (Figure 2 and column 5, lnes 4-22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gaines to include a virtual resource translation table and entries in response to resource requests so the relationships between the virtual resource identifiers, resource identifiers and resources can be efficiently managed (column 5, lines 31-33).

Kawabe does not teach a virtual resource translation table wherein the entries describe the association between an application identifier and virtual resource identifier and the resource identifier.

32. Manikundalam teaches resource translation table wherein the entries describe the association between an application identifier and the resource identifiers (Figure 4b and column 4, lines 10-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the application identifier in Kawabe's virtual resource translation table so the table can also map the applications to the resources they need.

33. Claim 13 is a computer readable medium which performs the actions of the system of claim 8. Therefore, claim 12 is rejected for the same reasons set forth in above paragraphs 29, 30 and 31 for claim 8.

34. Claims 9 and 14 are rejected under 35 U.S.C 103(a) as being unpatentable over Chrabaszcz, Draves and Leach as applied to claims 7 and 12 above, in further view of Kawabe.

35. As to claim 9, Chrabaszcz does not teach a system wherein said software module is operable to associate a plurality of resource identifiers and a plurality of resources with said virtual resource identifier.

36. Kawabe teaches a system wherein said software module is operable to associate a plurality of resource identifiers and a plurality of resources with said virtual resource identifier (column 20, lines 1-30 and column 22, lines 52where the actual resources "orig" and "copy" and resource identifiers "select_1st" and "select_2nd" are associated with the virtual resource name "A"). It would have been obvious to one skilled in the art at the time the invention was made to modify Gaines to associate a plurality of resource and resource identifiers with a virtual resource identifier multiple copies of a resource that are adapted for a plurality of various systems can be accessed (column 20, lines 46-55).

37. Claim 14 is a computer readable medium which performs the actions of the system of claim 9. Therefore, claim 12 is rejected for the same reasons set forth in above paragraphs 34 and 35 for claim 9.

38. Claims 10 and 15 are rejected under 35 U.S.C 103(a) as being unpatentable over Chrabaszcz, Draves and Leach as applied to claims 7, 9 and 12 above, in further view of Barrera

39. Chrabaszcz does not teach a system wherein said plurality of resources are a plurality of ports.

40. Barrera teaches a system wherein said plurality of resources are a plurality of ports (column 6, line 64 to column 7, line 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include ports as resource in Gaines so the application can properly communicate with the network through the port resource as well as be identified on the network.

41. Claim 15 is a computer readable medium which performs the actions of the system of claim 10. Therefore, claim 12 is rejected for the same reasons set forth in above paragraphs 37, 38 and 39 for claim 10.

42. Claims 11 and 16 are rejected under 35 U.S.C 103(a) as being unpatentable over Chrabaszcz, Draves and Leach as applied to claim 7 and 12 above, in further view of Kawabe and Lomet.

43. Chrabaszcz does not teach a system wherein said software module is operable to associate said virtual resource identifier with a new resource identifier and a new resource in response to said application being restored from one or more snapshots.

44. Kawabe teaches a system wherein said software module is operable to associate said virtual resource identifier with a new resource identifier and a new resource (column 2, lines 48-64) but does not disclose doing said association in response to an application being restored. It would have been obvious to one skilled in the art at the time the invention was made to modify Gaines to include Kawabe's virtual resource association functionality so the resources of the computer system are made virtual and the user can access the virtual resource by its identifier, thereby increasing the flexibility of the resource management (column 2, lines 20-29).

45. Lomet teaches associating a resource identifier with a new resource in response to an application being restored from one or more snapshots (column 15, line 62 to column 6, line 15 and lines 24-51). It would have been obvious to one of ordinary skill in the art to modify Kawabe to associate the virtual identifiers with new resources after an application crashes so the application can be recovered to the previous state prior to a crash.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gaines to include the functionality of Kawabe and Lomet's application recovery method so that application operations can be restored from a crash using saved resources and their IDs.

46. Claim 16 is a computer readable medium which performs the actions of the system of claim 11. Therefore, claim 12 is rejected for the same reasons set forth in above paragraphs 42, 43 and 44 for claim 11.

47. Applicant's remarks, see page 8, filed 3/23/2004, with respect to claim 1 under Baker et al, (hereinafter Baker) U.S Patent No. 5,109,510, have been fully considered and are persuasive. The rejection of claim 1 under Baker has been withdrawn.

48. Applicant's remarks, filed 3/23/2004, have been considered byt are moot in view of the new grounds of rejection, necessitated by Applicant's amendment.

49. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the

advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is (703)305-8864. The examiner can normally be reached on 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703)305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DC

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100